



Citadel Project Area

Draft Environmental Impact Statement

Appendix D

Summary of Botany and Wildlife Biological Assessment/Biological Evaluation

Introduction

This is a summary of the Citadel Project Biological Assessment/Biological Evaluations (BA/BEs) and is a review and analysis of actions proposed in the Citadel Draft Environmental Impact Statement (DEIS). The full BA/BEs are located in the Citadel project file. The purpose of a BA/BE is to determine how the proposed action and alternatives to the proposed action will affect federally listed species or sensitive species listed by the Rocky Mountain Region (FSM 2670, R2 2600-94-2). The Citadel BA/BEs were prepared in accordance with legal requirements set forth under Section 7 of the Endangered Species Act of 1973 (19 U.S.C. 1536(c)) and follow standards established in Forest Service Manual direction (2672.42) and the Code of Federal Regulations (50 CFR S402). The Citadel BA/BEs tier directly to the final environmental impact statement (FEIS) for the revised Black Hills National Forest Land and Resource Management Plan as amended (Forest Plan), the BA/BE completed for the 1997 Forest Plan revision, and the BA/BE prepared for the Phase II Amendment (USDA-Forest Service 2006).

Description of Proposal

The purpose and need for action in the Citadel project area is to reduce the risk of large, high-intensity fires, reduce the potential for epidemic mountain pine beetle infestation, and to provide for a diversity of wildlife habitat while providing commercial timber to local industry.

The Citadel project area is located immediately southwest of Spearfish, Lawrence County, in the northwestern part of the Black Hills of South Dakota (See Appendix A). The Citadel project area covers a total of 32,217 acres including approximately 28,135 acres of National Forest System (NFS) land and approximately 4,082 acres of interspersed private land immediately south of Spearfish, South Dakota, and east of the Wyoming-South Dakota state line. Landmarks include: Citadel Rock, Crow Peak, The Needles, Old Baldy Mountain, Higgins Gulch, Potato Creek, two Beaver Creeks, and Bear Gulch.

The main travel routes within or near the project area include U.S. Interstate 90 to the north, U.S. Highway 14A (Spearfish Canyon Highway, a Forest Service-designated Scenic Byway) to the east, and Forest Service Roads 214.1, 134.1, and 222.1 within the project area. The project area contains the entirety of the Crow Peak trail system, a majority of the Big Hill trail system and the trailhead to the Old Baldy system along with approximately 11 miles of designated snowmobile trails.

A brief description of the action alternatives follows:

Alternative B (Proposed Action): This alternative was developed to meet the Purpose and Need for Action described in Chapter 1 of the Citadel DEIS. This represents the ID team's best recommendation prior to detailed analysis of the environmental effects and public scoping. Alternative B proposes commercial and non-commercial harvest, mechanical fuels reduction treatments, prescribed burning, road construction, road maintenance, and road decommissioning.

Alternative C (Preferred Action): This alternative was developed to respond to the issues of fire hazard in the wildland urban interface (WUI) areas and availability of wildlife habitat. Alternative C differs from the proposed action in that fuels reduction and prescribed fire activities are focused more toward WUI areas, there is much more prescribed fire overall, and vegetative treatments across the landscape are more diverse to create a mosaic of available wildlife habitat.

Pre-field Review and Reconnaissance

Botany

The U.S. Fish and Wildlife Service provides a list of federally Threatened (T), Endangered (E), and Proposed (P) species via their South Dakota Field Office Internet site:

<http://southdakotafieldoffice.fws.gov/endsppbycounty.htm>, updated May 18, 2006. **No federally listed or**

proposed plant species occur in any South Dakota county in the Black Hills National Forest.

The Black Hills National Forest received the Region 2 Forest Service Sensitive species list in 1993 from the Regional Forester. This list is periodically updated and the current list was signed on April 28th, 2005. Table 1 contains the R2 Sensitive plant species that occur within the Black Hills National Forest.

Prior to the 2003 field season, a prefield review of Region 2 Sensitive plant species and high probability plant habitat was completed using topographic maps, local knowledge, and the Black Hills National Forest Plant Database (USDA-Forest Service 2007), which includes both survey and monitoring data. Based on the prefield review, it was determined that additional surveys were needed. Surveys were conducted of the entire Project Area in 2003, under two contracts then called Rubicon East and Rubicon West.

All R2 Sensitive plant species occurring in the Black Hills National Forest were considered in the review. Habitat exists in the Citadel project area for several R2 Sensitive plant species known to occur within the Black Hills. Suitable habitat is habitat that meets the requirements of a species. Different species may have different requirements and not all requirements may be understood at this time. Habitat may be suitable but unoccupied and it may exhibit varying degrees of quality and there is likely a spectrum of suitability that varies in time.

Based on the most updated available information and professional judgment, species with habitat preferences differing from habitat types present within the Citadel project area are not analyzed in the effects analysis portion of this document, since no impacts would occur. Table D-1 summarizes R2 Sensitive plant species known to occur in the project area, those having suitable habitat in the project area, and those species with habitat preferences differing from habitats present within the Citadel project area and rational for their exclusion from effects analysis.

Table D-1. R2 Sensitive Plant Species Known to Occur/With Suitable Habitat in the Citadel Project Area

Scientific Name	Common Name	Black Hills Distribution and Habitat	Species Known To Occur in Project Area	Is Suitable Habitat Present in Project Area?	Addressed in Effects Analysis
<i>Botrychium campestre</i>	prairie moonwort, Iowa moonwort	Prairie moonwort is extremely inconspicuous. Rangewide, it is considered a grassland species associated with sandy grassland habitats in prairies, dunes, railroad siding, and fields over limestone. In the Black Hills, there are currently 5 confirmed sites on National Forest lands. Additional sites exist on private lands and at Wind Cave National Park. Black Hills sites are found on limestone in open grassland habitats usually with high forb diversity and often with a high percentage of bare and rocky soils. Little bluestem (<i>Schizachyrium scoparium</i>) and western snowberry (<i>Symphoricarpos occidentalis</i>) occur at the majority of sites.	no	unknown because suitable habitat is not yet defined; analyzed in effects analysis	yes
<i>Botrychium lineare</i>	narrowleaf grapefern; slender moonwort	Four occurrences are confirmed on BHNF lands and they are located on the Bearlodge and the Hell Canyon Ranger Districts. All sites occur in open conditions on limestone geologic material. Two sites are located on old (estimated 15-25 years) native surface roadbeds. A third site is located adjacent to a gravel roadbed in open grassland. The fourth site, located on a large north-facing hillside, is not associated with any road development. Elsewhere in its range, this species has often been documented in areas of road disturbances and other human and natural disturbances.	no	unknown because suitable habitat is not yet defined; analyzed in effects analysis	yes
<i>Botrychium multifidum</i>	leathery grapefern	Currently, on the Black Hills, the majority of known locations are in mesic sites next to riparian areas dominated by spruce (<i>Picea glauca</i>) or mixed spruce-pine (<i>Pinus ponderosa</i>) along small, perennial streams in more or less	no	yes	yes

Scientific Name	Common Name	Black Hills Distribution and Habitat	Species Known To Occur in Project Area	Is Suitable Habitat Present in Project Area?	Addressed in Effects Analysis
		open areas, in or near old stream channels where water is no longer flowing on a permanent basis, but may still receive water scouring disturbance by occasional flooding events. Currently known populations are located only a few meters from stream channels along Iron Creek, Nelson Creek, and Lost Cabin Creek; all within the Norbeck Wildlife Preserve or the Black Elk Wilderness. One exception is a single site in the Bear Lodge Mountains in a steep narrow drainage with a birch/hazelnut community on sandstone. Plants are found on moss-covered sandstone boulders and streambank berms near occasional pools of water. In general, plants in the Black Hills are associated with mossy mats, frequently with the moss <i>Climacium</i> . Individuals of leathery grapefern have been found in duff under spruce, in grassy margins along streams, on sand/gravel bars along streams, and in mesic soils near hiking trails. Currently known to occur from 4,620-6,400 feet.			
<i>Carex alopecoidea</i>	foxtail sedge	In the Black Hills, foxtail sedge is currently known from two general areas: The Cement Ridge area along the South Dakota–Wyoming border, and in the Bear Lodge Mountains in Wyoming. Foxtail sedge has been found along open, perennial streams, often with old beaver dams or ponds. Occurrences are primarily documented in the transitional areas between saturated soils and the more mesic upland areas. Currently known elevation range is 3840-5900 feet.	yes	yes	yes
<i>Cypripedium parviflorum</i>	yellow lady's slipper	Habitat in the Black Hills includes stream banks under both spruce and deciduous overstories, moist cliffs (usually north-facing), and moist areas/seeps under spruce or mixed conifer forest. Occasionally, found higher on mesic forest slopes. Currently known to occur from 3500-6500 feet.	yes	yes	yes
<i>Epipactis gigantea</i>	giant helleborine	Generally, rangewide it is known from wet meadows, seepage slopes, and the base of cliffs along streams and rivers. In the Black Hills it is known only from Cascade Springs in Fall River County, South Dakota at 3,400 ft. It is likely dependent upon the constant moisture and warmth provided by the springs. No other warm springs are known on Forest Service administered land in the Black Hills.	no	no; no warm springs in project area	no
<i>Lycopodium complanatum</i>	trailing clubmoss	Currently known occurrences are located on shaded, north-facing slopes in white spruce/paper birch (<i>Betula papyrifera</i>) forest, in moist side drainages. Currently known elevation range is 5000-5820 feet.	no (not on FS administered land, but does occur within project boundary on private land)	yes	yes
<i>Platanthera orbiculata</i>	large round-leaf orchid	Found on shady, north-facing slopes in paper birch/hardwood stands, and occasionally in conifer forests on damp, rich, humus soil. Currently known elevation range is 4350-6150 feet.	yes	yes	yes

Scientific Name	Common Name	Black Hills Distribution and Habitat	Species Known To Occur in Project Area	Is Suitable Habitat Present in Project Area?	Addressed in Effects Analysis
<i>Salix candida</i>	sage willow	One verified extant occurrence west of Deerfield (McIntosh Fen, 6,000 ft). Also a historical collection for the general area “from Loring Siding to Minnekahta” (unknown if the historical collection from private or Forest Service land). Habitat includes cold seep or spring-fed saturated substrates produced by unusual hydrologic conditions where sedimentary layers of the Limestone Plateau intersect impermeable schist or shale of the crystalline Central Core. Community type associated with the occurrence is wet meadow fen.	no	no; the unusual hydrologic conditions it is associated with do not occur in the project area	no
<i>Salix serissima</i>	autumn willow	Fens and wet meadows. Known from McIntosh Fen (6,000 ft.), Middle Fork of Boxelder Creek (5,800 ft.), Nahant, (5,620 ft.) and Silver Creek (5850 ft.). Appears to occur in the same unique hydrologic conditions as <i>Salix candida</i> .	no	no; the unusual hydrologic conditions it is associated with do not occur in the project area	no
<i>Sanguinaria canadensis</i>	bloodroot	Bloodroot occupies floodplains, forested terraces, drainage bottoms, and north-facing footslopes in open, rich hardwood plant communities. The currently known range in the Black Hills is limited to the northeast portion of the Black Hills, from the east side of Spearfish Canyon to west of Tilford. Currently known elevation range is 3940-5000 feet.	no	no; outside of geographical range	no
<i>Viburnum opulus</i> var. <i>americanum</i>	highbush cranberry	Occasional at mid-elevations in wet, shaded habitats along streams, springs, and canyon bottoms. The large majority of documented occurrences are in drainage bottoms or low slopes with dry-mesic to moist soil conditions with partial shading. Currently known sites are primarily associated with paper birch/ironwood (<i>Ostrya virginiana</i>) and birch/hazelnut (<i>Corylus cornuta</i>), with or without spruce or aspen (<i>Populus tremuloides</i>). A few sites are in pine/oak (<i>Quercus macrocarpa</i>). <u>Paper birch is present at almost all currently known sites.</u> Elevation range is 3800-5700 feet.	yes	yes	yes
<i>Viola selkirkii</i>	great-spurred violet	Currently known occurrences are restricted to high elevation, cold and shaded to open microhabitats associated with vegetated granitic rock outcrops or white spruce forest with a highly variable understory. All currently known Forest Service occurrences are located within Black Elk Wilderness or the Norbeck Wildlife Preserve. Elevation range is 5300-7000 feet.	no	no; project area does not have high elevation granitic rock outcrops and project area is outside of geographical range	no

Wildlife

The U.S. Fish and Wildlife Service (USFWS) provided a list of federally threatened (T), endangered (E), and proposed (P) species via their South Dakota Field Office Internet site (USFWS WWW 2005; updated May 18, 2006). This list is further refined for the Black Hills area by USFWS concurrence to Twiss (2003). These sources and a prefield review of the best available data (e.g., South Dakota Natural Heritage and District wildlife databases) indicate that the bald eagle (T) is the only T, E or P species with potential to occur in the Black Hills. Therefore, the eagle is the only federally listed species considered in this document and no “critical habitat” has been designated for any federally listed species on the Black Hills National Forest.

The most recent Region 2 Sensitive (SS) species list (FSM R-2 Supplement 2600-2006-1) was reviewed and species that may occur on or near the Black Hills were considered (Table 3). Some of these species are also designated as Management Indicator Species (MIS) in the Forest Plan. Evaluations for the remaining non-

Sensitive MIS and Species of Local Concern (SOLC) can be found in the Wildlife Specialist's Report. Table D-2 lists the species, their status, and whether the species or their habitat might occur in project area. Twelve of the species listed in Table D-2 have neither habitat nor documented occurrences within the project area. Therefore, the proposed project would have no effect or impact upon them. No further analysis is provided for these species.

Table D-2. Phase II Amendment Threatened (T) & Endangered (E) Species, and R2 Sensitive Species (SS)

Threatened & Endangered Species; and R2 Sensitive Species	Status	Species Present? (X = yes)	Habitat Present? (X = yes)	Analysis Included in NEPA document? (X = yes)	Rationale for not carrying species forward into NEPA document
Birds					
American Peregrine Falcon (<i>Falco peregrinus anatum</i>)	SS				Open habitat with cliffs present; optimal cliffs dominate the surrounding landscape (Terres 1991). Habitat not present in the project area.
American Three-toed Woodpecker (<i>Picoides tridactylus</i>)	SS		X	X	Occur almost exclusively in mature spruce stands (Beason et al. 2006). Refer to Effects Analysis.
Bald Eagle (<i>Haliaeetus leucocephalus</i>)	T	X	X	X	Usually found near open water or carrion (Tallman et al. 2002); only one nest and one winter roost has ever been documented on the Forest. Neither are within a ½ mile of the project area. However, migrating and wintering bald eagles may use the project area. Refer to Effects Analysis.
Black-backed Woodpecker (<i>Picoides arcticus</i>)	SS, MIS	X	X	X	Burned areas with a high density of pre-burn snags; dense and/or mature forests with a high snag density (Anderson 2003, Panjabi 2003). Species rare outside of burned areas (Beason et al. 2006). Refer to Effects Analysis.
Burrowing Owl (<i>Athene cunicularia</i>)	SS				Dry grasslands and pastures, usually associated with prairie dog or ground squirrel burrows (Tallman et al. 2002). Habitat not present in the project area.
Flammulated Owl (<i>Otus flammeolus</i>)	SS		X	X	Open ponderosa pine forests (Hayward and Verner 1994). Refer to Effects Analysis.
Grasshopper Sparrow (<i>Ammodramus savannarum</i>)	SS, MIS				Native mixed-grass prairies, especially in southern Black Hills (Panjabi 2004, Beason et al. 2006); prefers large grassland patches greater than 8 ha (19.8 acres) in size (Slater 2004). Habitat not present in the project area.
Lewis's Woodpecker (<i>Melanerpes lewis</i>)	SS				Open burned areas with large snags; oak and cottonwood forests, and open, park-like ponderosa pine forests (Anderson 2003, Panjabi 2003). Habitat not present in the project area.
Loggerhead Shrike (<i>Lanius ludovicianus</i>)	SS				Open country with scattered, low deciduous thickets; however, rare or out of normal range in Black Hills (Tallman et al. 2002). Breeding records occur near periphery of Black Hills but not in the interior or at higher elevations (Peterson 1995). Habitat not present in the project area.
Northern Goshawk (<i>Accipiter gentilis</i>)	SS	X	X	X	Forages in a variety of forested areas and small openings; nests primarily in dense mature conifer forests (Kennedy 2003). Three goshawk territories exist in the project area. Refer to effects analysis.
Northern Harrier (<i>Circus cyaneus</i>)	SS				Open country in medium/tall grass prairies and associated wetlands, marshes, and meadows (USDA Forest Service 2003). Habitat not present in the project area.

Yellow-billed Cuckoo (<i>Coccyzus americanus</i>)	SS				Riparian obligate; low elevation riparian areas and woodlands characterized with cottonwood or burr oak (Panjabi 2003). Breeding habitat must be at least 25 acres in size, but habitats greater than 100 acres and 330 feet wide are preferred; canopy cover often exceeds 50% in both understory and overstory (Nicholoff 2003). Habitat not present in the project area.
Mammals					
American Marten (<i>Martes americana</i>)	SS	X	X	X	Spruce forests with complex near-ground structure, extending into adjacent ponderosa pine stands (Buskirk 2002). Habitat not present in the project area.
Black-tailed Prairie Dog (<i>Cynomys ludovicianus</i>)	SS				Short-grass and mixed-grass prairies with soils conducive to burrowing (Higgins et al. 2000). Habitat not present in or near project area.
Fringed Myotis (<i>Myotis thysanodes pahasapensis</i>)	SS		X	X	Found at high elevations in spruce habitat and mixed ponderosa pine, spruce and aspen habitat; roosts in a variety of structures including caves, mines, tunnels, snags and buildings (Schmidt 2003). No known hibernacula or roost sites present in the project area. Foraging habitat may exist. Refer to effects analysis.
Townsend's Big-eared Bat (<i>Plecotus townsendii</i>)	SS		X	X	Forages on insects in a variety of habitats including forested and wet areas; requires suitable roosts in a variety of structures including caves, mines, rocky ledges and overhangs (Schmidt 2006). Hibernacula or roost sites possibly present in the project area. Foraging habitat may exist. Refer to effects analysis.
Reptiles					
Black Hills Redbelly Snake (<i>Storeria occipitomaculata pahasapae</i>)	SS	X	X	X	Moist habitats with well-developed ground litter (Smith and Stephens 2003). Refer to effects analysis.
Amphibians					
Northern Leopard Frog (<i>Rana pipiens</i>)	SS	X	X	X	Riparian and wetland areas for tadpoles, sub-adults, and breeding adults; adults forage in upland habitats (Smith 2003). Refer to effects analysis.
Fish					
Finescale Dace (<i>Phoxinus neogaeus</i>)	SS				Streams, small lakes and cool, boggy environments often associated with springs or beaver dams; limited primarily to the Redwater Creek drainage, with the exception of Geis Reservoir on Middle Fork Hay Creek; no known occurrences on the South Dakota portion of the Forest (Isaak et al. 2003). Habitat not present in the project area and not found during fish surveys in or near the project area (Hirtzel 2006).
Lake Chub (<i>Couesius plumbeus</i>)	SS				Lakes and streams that usually have cool waters and clean gravel or cobble substrate; only population on the Forest is in Deerfield Reservoir (Isaak et al. 2003). Habitat not present in the project area and not found during fish surveys in or near the project area (Hirtzel 2006).
Mountain Sucker (<i>Catostomus platyrhynchus</i>)	SS, MIS				Occurs most often in cool, clear mountain streams, but have been observed elsewhere in large rivers, lakes and reservoirs (Isaak et al. 2003). Habitat not present in the project area.

					and not found during fish surveys in or near the project area (Hirtzel 2006).
Invertebrates					
Cooper's Mountain Snail (<i>Orechelix strigosa cooperi</i>)	SS	X	X	X	Found on calcareous soils, lowland wooded areas and talus slopes, generally but not always with northern or eastern exposures. In contrast to other land snails, Cooper's snail can thrive with little cover and thin litter (Anderson 2005). Known snail colonies occur in the project area
Regal Fritillary (<i>Speyeria idalia</i>)	SS				Tall-grass prairies; continuous prairie near marshes (Marrone 2005); greater than 1,000 acres may be required for stable populations (Royer and Marrone 1992). Best habitat in Black Hills occurs at lower elevations along Forest boundary and in interior prairies (at least 250 acres in size) (USDA-Forest Service 1996). Habitat not present in the project area.

Determination of Effects

Botany

Minimal to no treatments would occur in the areas identified as suitable habitat in order to conserve known occurrences and suitable habitat and to conserve biodiversity in the project area. Additionally, suitable Sensitive plant habitat usually contains a minor component of ponderosa pine. Furthermore, these habitats are naturally lower fire hazard areas due to additional moisture and less flammable fuel types being present. Suitable habitats include moist birch, moist birch/aspen, moist spruce, and areas with moist to saturated soils (low slopes, springs, seeps, and riparian areas). Suitable habitat also tends to overlap with the Watershed Influence Zone (WIZ), sites with soil stability issues, and potential wildlife conservation sites (e.g. snails), all of which have additional management measures and design criteria associated with them.

Known sites of Sensitive plant species and/or their habitat occur within RIS stands of proposed treatment units (RIS stands are the units used for vegetation treatments). However, avoidance or another appropriate conservation measure exists for occurrences and suitable habitat and they are included in the design criteria shapefile. More specifically, for mechanical treatments (thinning to various basal areas, seed cuts, overstory removals, uneven-aged treatments, clearcuts, commercial hardwood enhancements, commercial meadow treatments), avoidance is incorporated as design criteria, for prescribed fire no direct ignition and no creation of control lines is incorporated as design criteria, and for meadow enhancements, treatments consider known plant occurrences and their needs.

Treatments that reduce fuel loading *adjacent* to suitable Sensitive plant habitat are thought to aid in long-term conservation of suitable plant habitat by reducing the risk of unnaturally intense wildfires, which could have a greater negative impact. In the Record of Decision for the Black Hills National Forest Phase II Amendment, October 2005, the Regional Forester is "accepting small short-term negative effects on fish, wildlife, and plant populations caused by vegetation treatments that reduce forest density. However, these treatments protect and provide habitat needed for long-term viability by reducing susceptibility to damaging fires and insect epidemics (36 CFR 219.19(a)(5))".

The project area contains two Botanical Areas; Bear/Beaver Gulches and Higgins Gulch. There are no proposed treatments and no new roads proposed in Botanical Areas under either action alternative.

There are no Research Natural Areas (RNA's) in the Citadel Project Area. Additionally, there are no montane grasslands recommended for conservation in the Survey of Black Hills Montane Grasslands (Marriott 2000) in the Citadel project area.

Approximately .28 miles of road would cross suitable, but unoccupied, Sensitive plant habitat under each action alternative. A botanist would work with the road engineer to find the best placement of the road.

Table D-3. Determination of Effects, by Alternative, for R2 Sensitive Plant Species Known to Occur or Having Suitable Habitat in the Citadel Project Area

SCIENTIFIC NAME/ COMMON NAME	Determination		
	ALT A	ALT B	ALT C
<i>Botrychium campestre</i> prairie moonwort, Iowa moonwort	may impact individuals... but no loss of viability	may impact individuals... but no loss of viability	may impact individuals... but no loss of viability
<i>Botrychium lineare</i> narrowleaf grapefern	may impact individuals... but no loss of viability	may impact individuals... but no loss of viability	may impact individuals... but no loss of viability
<i>Botrychium multifidum</i> leathery grapefern	may impact individuals... but no loss of viability	may impact individuals... but no loss of viability	may impact individuals... but no loss of viability
<i>Carex alopecoidea</i> fox-tail sedge	may impact individuals... but no loss of viability	may impact individuals... but no loss of viability	may impact individuals... but no loss of viability
<i>Cypripedium parviflorum</i> yellow lady's slipper	may impact individuals... but no loss of viability	may impact individuals... but no loss of viability	may impact individuals... but no loss of viability
<i>Lycopodium complanatum</i> trailing clubmoss	may impact individuals... but no loss of viability	may impact individuals... but no loss of viability	may impact individuals... but no loss of viability
<i>Platanthera orbiculata</i> large round-leaved orchid	may impact individuals... but no loss of viability	may impact individuals... but no loss of viability	may impact individuals... but no loss of viability
<i>Viburnum opulus</i> var. <i>americanum</i> highbush cranberry	may impact individuals... but no loss of viability	may impact individuals... but no loss of viability	may impact individuals... but no loss of viability

*Note: “may impact individuals...but no loss of viability ...” is an abbreviation for the entire FSM wording of “May adversely impact individuals, but not likely to result in a loss of viability in the planning area, nor cause a trend toward federal listing”.

Wildlife

Wildlife species for which habitat or presence is suspected or known were analyzed in detail and determinations made. The following table summarizes the determination for each of these species.

Table D-4. Determination of Impacts from the Action Alternatives to Threatened, Endangered and Sensitive Wildlife Species Located in the Citadel Project Area.

Species	Species Recorded	Potential Suitable Habitat	No Impact	Beneficial Impact	May Impact Individuals	May Impact Population
Bald eagle			X			
Northern goshawk	X	X			X	
American marten	X	X			X	
Black-backed woodpecker	X	X			X	
Three-toed woodpecker		X			X	
Flammulated owl		X			X	
Northern leopard frog	X	X			X	
Black Hills redbelly snake	X	X			X	
Townsend's big-eared bat		X			X	
Fringe myotis		X			X	
Cooper's Mountainsnail	X	X			X	